



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/748,720	12/26/2000	Byron J. Slater	00P9121US	4203
28524 7590 09/03/2008 SIEMENS CORPORATION INTELLECTUAL PROPERTY DEPARTMENT 170 WOOD AVENUE SOUTH ISELIN, NJ 08830				
EXAMINER NGUYEN, DANNY				
ART UNIT 2836		PAPER NUMBER		
MAIL DATE 09/03/2008		DELIVERY MODE PAPER		

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

09/748,720

Applicant(s)

SLATER ET AL.

Examiner

DANNY NGUYEN

Art Unit

2836

Period for Reply -- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 06 June 2008.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-5 and 24-38 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-5, 24-28 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
- 4) ☐ Interview Summary (PTO-413)
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

Response to Arguments

1. In view of the re-appeal brief filed on 6/6/2008, PROSECUTION IS HEREBY REOPENED. A new ground of rejections set forth below.

To avoid abandonment of the application, appellant must exercise one of the following two options:

(1) file a reply under 37 CFR 1.111 (if this Office action is non-final) or a reply under 37 CFR 1.113 (if this Office action is final); or,

(2) initiate a new appeal by filing a notice of appeal under 37 CFR 41.31 followed by an appeal brief under 37 CFR 41.37. The previously paid notice of appeal fee and appeal brief fee can be applied to the new appeal. If, however, the appeal fees set forth in 37 CFR 41.20 have been increased since they were previously paid, then appellant must pay the difference between the increased fees and the amount previously paid.

A Supervisory Patent Examiner (SPE) has approved of reopening prosecution by signing below:

/Michael J Sherry/

Supervisory Patent Examiner, Art Unit 2836

The indicated allowability of claims 33, and 36 are withdrawn in view of the newly discovered reference(s) to Tsurunaga et al (USPN 6,097,246), and Morris, Jr. et al (USPN 6,512,444). Rejections based on the newly cited reference(s) follow.

Claim Objections

2. Claim 32 is objected to because of the following informalities:

Claim 32, line 3, the term "the electrical power line" should be changed to "an electrical power line". Appropriate correction is required.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

3. Claims 1, 30 are rejected under 35 U.S.C. 102(b) as being anticipated by Kitchens (USPN 4,845,580).

Regarding claims 1, 30, Kitchens discloses a surge protection apparatus (such as protector circuit in figure 4A, 4B) connected between an AC electrical utility power line a load comprises

a voltage input directly coupled to the AC electrical utility power line, the AC electrical utility power line having a nominal AC voltage of at least about 12 volts coupled between the voltage input and the load;

an inductor (e.g. inductor L4) is coupled between the voltage input and the load, and

a protective barrier (such as a housing) interposed between the inductor and the load, the protective barrier configured to physically isolate the inductor from the load (see col. 4, lines 15-30).

4. Claim 32 is rejected under 35 U.S.C. 102(e) as being anticipated by Chaudhry (USPN 6,252,754).

Regarding claim 32, Chaudhry discloses a surge protection apparatus (such as a plug in surge suppressor 10 shown in figure 1) connected between an electrical power line source (such as an AC power source is coupled to an AC plug 12) and a load comprising:

a voltage input coupled to an electric power line (a voltage input of an over-voltage protection circuit 20 is coupled to AC voltage input, see figure 1);

an inductor (such as an inductor 316 of a surge suppressor 300, note the suppressor 300 is an alternative AC over-voltage protection circuit of the over-voltage protection circuit 20) coupled between the voltage input and the load; and

a protective barrier (such as a housing of the surge suppressor 10, see figure 1) interposed between the inductor and the load, the protective barrier configured to

physically isolate the inductor from the load, the protective barrier including a protective sleeve (272) that receives the inductor (the construction of the surge suppressor 300 shown in figure 9 which includes a protective sleeve 272 that receives the inductor 316, see col. 8, lines 24-31, lines 36-43).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 3-5, 24-26, 28, 29, 34-37 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kitchens (USPN 4,845,580) in view of Tsurunaga et al (USPN 6,097,246) in view of Morris, Jr. et al (USPN 6,512,444).

Regarding claim 3, Kitchens discloses all limitations of claim 1 as discussed above, a PPTC device is coupled in series with the inductor as claimed.

Tsurunaga discloses a protection circuit (see figure 1) comprises a PTC device (such as a PTC device RG shown in figure 1) is connected in series with an inductor (such as an inductor X).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified the protection circuit of Kitchens to incorporate the PTC device as disclosed by Tsurunaga in order to provide additional protection such

that preventing circuits from being damaged due to a high current situation (see col. 1, lines 25-28).

Kitchens and Tsurunaga disclose a teaching of using a PTC device in stead of a PPTC device as claimed. However, providing a PPTC device which is used as a protection circuit is well known in the art. Selecting a material to make a PTC device is based upon design constraint imposed by the system in which the PTC is designed to be used in. It would have been obvious to one of ordinary skill in the art at the time the invention was made to have selected the PTC device of Kitchens and Tsurunaga to incorporate a PPTC device because this is known and taught by Morris (see col. 4, 5, lines 67-8, col. 7, lines 20-28). In addition, using a PPTC device provides advantages of having good flexibility, high elongation and good cracking resistance.

Regarding claims 4, 5, 24, 28, 29, 34-36, Kitchens discloses a surge protection apparatus (such as protector circuit in figure 4A, 4B) connected between an AC electrical utility power line a load comprises

a voltage input directly coupled to the AC electrical utility power line,
an inductor (e.g. inductor L4) is coupled between the voltage input and the load,
and

a protective barrier (such as a housing) interposed between the inductor and the load, the protective barrier configured to physically isolate the inductor from the load (see col. 4, lines 15-30).

Kitchens does not disclose the surge protection further includes a resistor and a PPTC device is coupled in series with the inductor as claimed.

Tsurunaga discloses a protection circuit (see figure 1) comprises a PTC device (such as a PTC device RG shown in figure 1) and a resistor (such as a resistor R) are connected in series with an inductor (such as an inductor X).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified the protection circuit of Kitchens to incorporate the PTC device as disclosed by Tsurunaga in order to provide an additional protection such that preventing circuits from being damaged due to a high current situation (see col. 1, lines 25-28).

Kitchens and Tsurunaga disclose a teaching of using a PTC device in stead of a PPTC device as claimed. However, providing a PPTC device which is used as a protection circuit is well known in the art. Selecting a material to make a PTC device is based upon design constraint imposed by the system in which the PTC is designed to be used in. It would have been obvious to one of ordinary skill in the art at the time the invention was made to have selected the PTC device of Kitchens and Tsurunaga to incorporate a PPTC device because this is known and taught by Morris (see col. 4, 5, lines 67-8, col. 7, lines 20-28). In addition, using a PPTC device provides advantages of having good flexibility, high elongation and good cracking resistance.

Regarding claims 37, 25, 26, Kitchens discloses a surge protection apparatus (such as protector circuit in figure 4A, 4B) connected between an AC electrical utility power line a load comprises

a voltage input directly coupled to the AC electrical utility power line,
an inductor (e.g. inductor L4) is coupled between the voltage input and the load,
and

Kitchens does not disclose the surge protection further includes a resistor and a PPTC device is coupled in series with the inductor as claimed.

Tsurunaga discloses a protection circuit (see figure 1) comprises a PTC device (such as a PTC device RG shown in figure 1) and a resistor (such as a resistor R) are connected in series with an inductor (such as an inductor X).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified the protection circuit of Kitchens to incorporate the PTC device as disclosed by Tsurunaga in order to provide an additional protection such that preventing circuits from being damaged due to a high current situation (see col. 1, lines 25-28).

Kitchens and Tsurunaga disclose a teaching of using a PTC device in stead of a PPTC device as claimed. However, providing a PPTC device which is used as a protection circuit is well known in the art. Selecting a material to make a PTC device is based upon design constraint imposed by the system in which the PTC is designed to be used in. It would have been obvious to one of ordinary skill in the art at the time the invention was made to have selected the PTC device of Kitchens and Tsurunaga to

incorporate a PPTC device because this is known and taught by Morris (see col. 4, 5, lines 67-8, col. 7, lines 20-28). In addition, using a PPTC device provides advantages of having good flexibility, high elongation and good cracking resistance.

Tsurunaga, and Morris disclose do not explicitly disclose the resistor has a value as claimed. However, providing the exact value of the resistor is based upon design constraints imposed by the system in which the resistor is designed to be used in. It would have been obvious to one having ordinary skill in the art at the time of the invention was made to select a value of the resistor of Kitchens, Tsurunaga, and Morris to a suitable value so that it can properly performs current limiting operation. since it has been held that discovering an optimum value of a result effective variable involves only routine skill in the art. In re Boesch, 617 F.2d 272, 205 USPQ 215 (CCPA 1980).

6. Claims 2, 31 are rejected under 35 U.S.C. 103(a) as being unpatentable over Doneghue (USPN 6,411,486) in view of Morris, Jr. et al (USPN 6,512,444).

Regarding claims 2, 31, Doneghue discloses a surge protection apparatus (see figures 8, 12) connected between an AC electrical utility power line (such as an upstream power buss 222 is coupled to a utility of power distribution system) and a load (such as users U1-U3), comprising:

a voltage input directly coupled to the AC electrical utility power line (222), the AC electrical utility power line having a nominal AC voltage of at least about 120 volts;

a fuse (such as a fuse 130, see figure 8) coupled between the voltage input and the load; and a protective barrier (such as a housing 54 of disconnect unit 122, shown in figure 1) interposed between the fuse and the load, the protective barrier configured to physically isolate the fuse from the load.

Doneghue do not disclose a PPTC device as claimed. However, using a PPTC device as a protection device is well known in the art and typically disclosed by Morris.

Morris discloses an over-current protection comprises a PPTC device (407) is disposed in an insulating sleeve (409) (see col. 4, 5, lines 67-8, col. 7, lines 20-28).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified the fuse device of Doneghue to incorporate a PPTC device because this PPTC device provides advantages of resetting automatically having good flexibility, high elongation and good cracking resistance. Thereby enhancing an over-current protection.

7. Claim 33 is rejected under 35 U.S.C. 103(a) as being unpatentable over Chaudhry (USPN 6,252,754) in view of Morris, Jr. et al (USPN 6,512,444).

Regarding claim 33, Chaudhry further disclose a thermal fuse (322) (see figure 10) coupled in series with the inductor (316 (see col. 8, lines 54-55) between the voltage input and the load, the thermal fuse (322) received by the protective sleeve (such as the housing 272, see figure 9, col. 8, lines 40-43).

Chaudhry does not disclose a PPTC device as claimed.

However, using a PPTC device as a protection device is well known in the art and typically disclosed by Morris.

Morris discloses an over-current protection comprises a PPTC device (407) is disposed in an insulating sleeve (409) (see col. 4, 5, lines 67-8, col. 7, lines 20-28).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to have modified the fuse device of Chaudhry to incorporate a PPTC device because this PPTC device provides advantages of resetting automatically having good flexibility, high elongation and good cracking resistance. Thereby enhancing an over-current protection.

8. Claim 27, 38 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kitchens in view of Tsurunaga et al, Morris, Jr. et al, and Carpenter et al (USPN 4,389,695).

Regarding claims 27, and 38, Kitchens, Tsurunaga, and Morris disclose all limitations of claims 4, and 37 as discussed above, but do not explicitly disclose the resistor is an axial lead resistor as claimed.

However, using an axial lead resistor to limit current is well known in the art. It would have been obvious to one of ordinary skill in the art to have selected the resistor of Kitchens, Tsurunaga, and Morris to incorporate an axial lead resistor because this type of the resistor is known and taught by Carpenter (see figures 1, an axial lead resistor 11A).

Conclusion

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to DANNY NGUYEN whose telephone number is (571)272-2054. The examiner can normally be reached on 8:00-4:30 M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, MICHAEL SHERRY can be reached on 571-272-2084. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Michael J Sherry/
Supervisory Patent Examiner, Art Unit 2836

/Danny Nguyen/
Examiner, Art Unit 2836